



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

P3000-150
Job Sheet 168558



Part No: P3000-150

Job Qty: 2 ea 1

Part Name: Plasma® Long Line



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/17/17

Job Tracking No:

Due Date: 1/3/18

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG P### Rev 1(TEO17-741) IPP Rev A 17.11.13 New issue DP verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	2 pcs		1/2/18	0.00	0.00	Purchasing		
120	Packaging	2 pcs		1/2/18	0.00	0.00	Packaging2		
130	QC	2 pcs		1/2/18	0.00	0.00	QC6		
131	Small Fab	2 pcs		1/3/18	0.00	2.00	Small Fab-3		
140	Packaging	2 pcs		1/3/18	0.00	0.00	Packaging3		
150	QC21-FG	2 Ea		1/3/18	0.00	0.00	QC21		

Part Op 110 - Issue P/O to Tulmar; P/O _____ - Manufacture as per DWG 3000-150 2018

Descriptions: 131 - 1-Engrave 1632T22 tags as per DWG sheet 7. 2-Attach first tag using 90177A218 ring to zipper on -39 bag, place second tag in front pocket of -39 bag. 3-Pack bag.

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
P3000-150P	Plasma® Long Line	2 Ea (1 ea)	110-Purchasing	
1632T22	Aluminum Tag 1" X 2" X 0.04"	4 pcs (2 ea)	131-Small Fab	
600.1327P	Long Line Carry Bag	2 pcs (1 ea)	131-Small Fab	
90177A218	Split Ring	4 Ea (2 ea)	131-Small Fab	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Purchasing	P3000-150P	2	0	0
131-Small Fab	1632T22	4	97	0
	600.1327P	2	34	0
	90177A218	4	100	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																																
Description Work Order Deviation				Disposition																																																																			
Root Cause <table style="width:100%; border: none;"> <tr><td>Environment ☐</td><td>No Re-verification ☐</td></tr> <tr><td>Design ☐</td><td>Operator ☐</td></tr> <tr><td>Doc/Data ☐</td><td>Offset/Setup ☐</td></tr> <tr><td>Equip/Tooling ☐</td><td>Supplier ☐</td></tr> <tr><td>Handling/Pre ☐</td><td>Training ☐</td></tr> <tr><td>Material ☐</td><td>Use for Testing ☐</td></tr> <tr><td>Internal Transport ☐</td><td>Poor Information ☐</td></tr> <tr><td>Tribal Knowledge ☐</td><td>Rushing ☐</td></tr> <tr><td>LOA ☐</td><td>Product Improvement ☐</td></tr> <tr><td>Substation ☐</td><td>Process Improvement ☐</td></tr> <tr><td>Past Expiry Date ☐</td><td>Manufacturing Process ☐</td></tr> <tr><td>Misidentified ☐</td><td>Past Due ☐</td></tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="width:25%;">Pressure/Forced ☐</td> <td style="width:25%;">Temperature/Cure ☐</td> <td style="width:25%;">Power Loss/Surge ☐</td> <td style="width:25%;">Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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Dart Hawkesbury
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Hawkesbury, ON
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Tel (613) 632-5200

P3000-150
Job Sheet 168558



Split Ref: 174208

Part No: P3000-150

Job Qty: 2 ea

Part Name: Plasma® Long Line



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/17/17

Job Tracking No:

Due Date: 1/3/18

Created By: Chantal Lavoie

Type: Stock

Description:

Customer: Eagle Copters South America (CEAGL01)

Aerodrome De Chicureo, Camino Guay-Guay #8881 Colina, Santiago, , 9340000 Chile ph:+56 22 948 3200
fx:+56 2 2247 8290.

Note: IPP Rev A 17.11.13 New issue DP verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	2 pcs		1/3/18	0.00	0.00	Purchasing		AT 18/03/18
120	Packaging	2 pcs		1/3/18	0.00	0.00	Packaging2		ADAB 18/03/18
130	QC	2 pcs		1/3/18	0.00	0.00	QC6		11
140	Packaging	2 pcs		1/3/18	0.00	0.00	Packaging3		9-89
150	QC21-SA	2 Ea		1/3/18	0.00	0.00	QC21		

Part Op 110 - -Issue P/O to Tulmar; P/O 038417 -Manufacture as per DWG 3000-150 -Certificate of Conformity is
Descriptions: required

NOV 20 2017

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
110-Purchasing	P3000-150P	2	0	0	0

Part Specifications

Specifications could not be found.

Plex 11/17/17 7:49 AM dart.lavoie.chantal



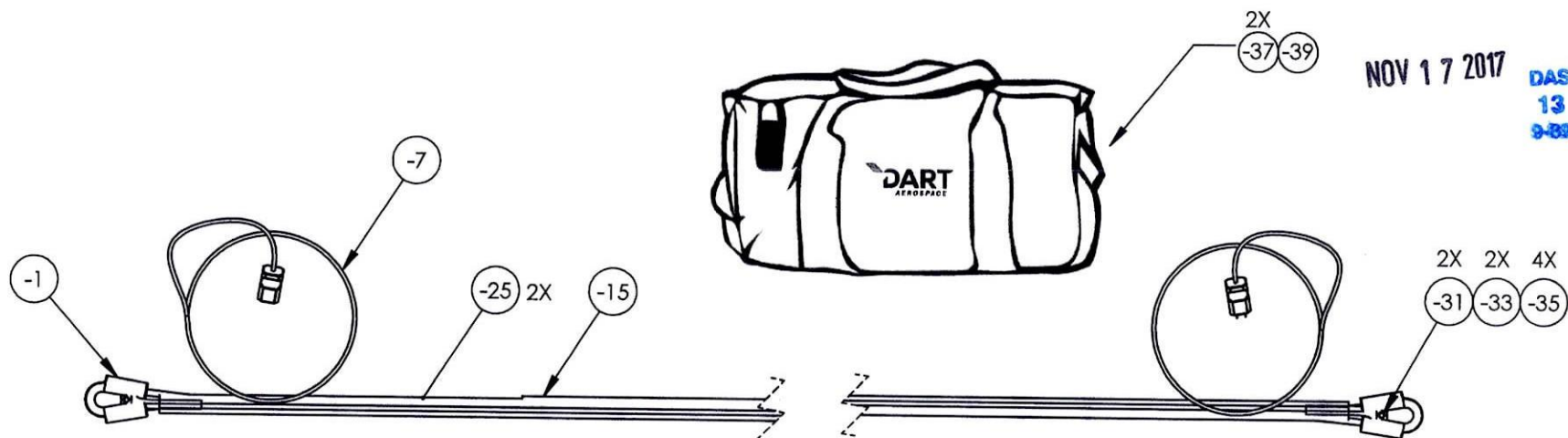
PART NO: P3000 – 150
Serial No/Batch: S050574
Revision:
Operation: Packaging
Change No:

Mfg Date: 03/13/18
Job No: 168558

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		RELEASED FOR PRODUCTION.	5/5/2017	SM	JAG

TEO ATTACHED



ASSY QTY	ASSY QTY	ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			X		-1	1	LINE/THIMBLE ASSEMBLY			2
			1	B/O	-3		ROPE		SEE TABLE 1, MODIFIED	2
			2	B/O	-5		THIMBLE	STEEL	SEE TABLE 1, MODIFIED	3
			2	B/O	-6		EPOXY	EPOXY	(SMOOTH CAST 45D)	2
		X			-7	1	WIRE ASSEMBLY			4
		1		B/O	-9		WIRE		1/4/3 SJTOW, MODIFIED	4
		1		B/O	-11		3-PRONG MALE SPADE PLUG	EL-PLUG-M	(PASS & SEYMOUR # PS5965Y)	4
		1		B/O	-13		3-PRONG FEMALE SPADE PLUG	EL-PLUG-F	(PASS & SEYMOUR # PS5969Y)	4
	X				-15	1	JACKET		SEE TABLE 2	5
	1			B/O	-17		WEBBING		SEE TABLE 2	5
	1			B/O	-19		1" VELCRO	NYLON	1" HOOK FASTENING TAPE (J. ENNIS FABRICS # VELSE9004)	5
	1			B/O	-21		1" VELCRO	NYLON	1" LOOP FASTENING TAPE (J. ENNIS FABRICS # VELSE9005)	5
1	1			B/O	-23		2" VELCRO	NYLON	2" HOOK FASTENING TAPE (J. ENNIS FABRICS # VELSE9006)	5,6
X				B/O	-25	2	END RETURN		SEE TABLE 3	6
1				B/O	-27		WEBBING		TOP GUN MATERIAL, MEDIUM BLUE	6
1				B/O	-29		2" VELCRO	NYLON	2" LOOP FASTENING TAPE (J. ENNIS FABRICS # VELSE9007)	6
				B/O	-31	2	BOLT	STEEL	AN3-10A	1
				B/O	-33	2	NUT	STEEL	MS21044-N3	1
				B/O	-35	4	WASHER	STEEL	AN960-10	1
					-37	2	TAG		PAPER	7
				B/O	-39	1	BAG		DART AEROSPACE BAG (600.1327)	1
ASSY -25	ASSY -15	ASSY -7	ASSY -1							

NOTE:
1. CONSULT LONG LINE ASSEMBLY MANUAL FOR PRODUCT ASSEMBLY.

DART
AEROSPACE

LONG LINE

TITLE	P####-##		REV 1
DWG NO.	P####-##		
MAT'L	UNLESS OTHERWISE SPECIFIED		
HEAT TREAT	DIMENSIONS ARE IN INCHES		
FINISH	.XXX ± .005 FRACTIONS ± 1/8		
SPEC	.XX ± .01 ANGLES ± 5°		
	.X ± .1 SURFACES = 125/		
DRAWN BY:	SM 05/05/2017	1. BREAK ALL SHARP EDGES	
CHECKED:	DD 05/08/2017	.015 x 45° OR .015R	
OPPS APPR:	AA 05/10/2017	2. DIMENSIONAL LIMITS APPLY	
QA APPR:	JL 05/10/2017	AFTER PLATING	
APPROVED:	JAG 05/17/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
SCALE	1:12	DATE	5/5/2017
		SHEET	1 OF 7

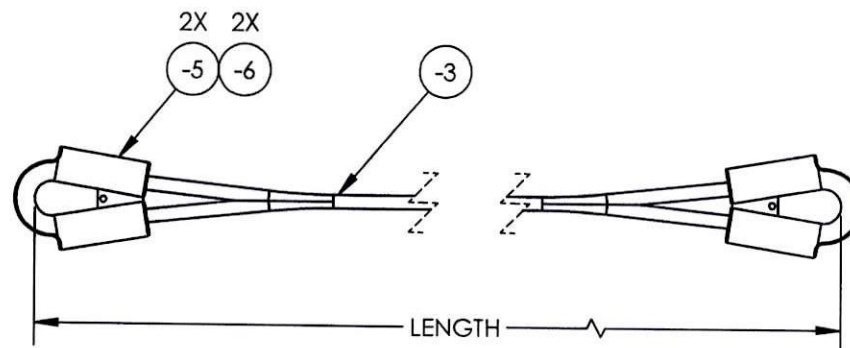
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REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED

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TABLE 1

P####	-## (LENGTH FT.)	-3 (ROPE)	-5 (THIMBLE)
2500	50	3/8" PLASMA® 12 STRAND	G715PC
	100		
	150		
	200		
	CUSTOM		
3000	50	7/16" PLASMA® 12 STRAND	G719PC
	100		
	150		
	200		
	CUSTOM		
4400	50	1/2" PLASMA® 12 STRAND	G725PC
	100		
	150		
	200		
	CUSTOM		
5400	50	9/16" PLASMA® 12 STRAND	G735PC
	100		
	150		
	200		
	CUSTOM		
7300	50	5/8" PLASMA® 12 STRAND	G745PC
	100		
	150		
	200		
	CUSTOM		
9700	50	3/4" PLASMA® 12 STRAND	G745PC
	100		
	150		
	200		
	CUSTOM		
13200	50	7/8" PLASMA® 12 STRAND	G745PC
	100		
	150		
	200		
	CUSTOM		
15700	50	1" PLASMA® 12 STRAND	G745PC
	100		
	150		
	200		
	CUSTOM		



NOTE:

1. CUT AND SPLICE ROPE WITH THIMBLES IN ACCORDANCE WITH THE LONG LINE ASSEMBLY MANUAL AND CUT LENGTH CALCULATOR.

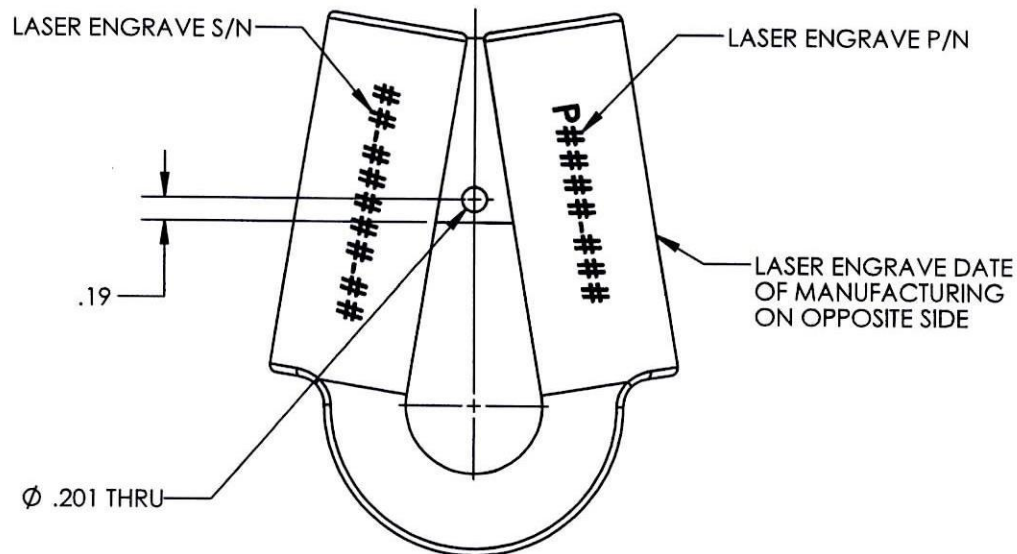
DART AEROSPACE	
TITLE LONG LINE	
DWG NO. P####-##-1	REV 1
MAT'L _____ HEAT _____ TREAT _____ FINISH _____ SPEC _____	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DRAWN BY: SM 05/05/2017 CHECKED: DD 05/08/2017 OPPTS APPR: AA 05/10/2017 QA APPR: JL 05/10/2017 APPROVED: JAG 05/17/2017	
SCALE 1:6	DATE 5/5/2017
SHEET 2 OF 7	

①
LINE/THIMBLE ASSEMBLY

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NOTE:

1. USE THIMBLE REFERENCED TO IN TABLE 1.

DART AEROSPACE	
TITLE LONG LINE	
DWG NO. P####-##-5	REV 1
MAT'L STEEL HEAT TREAT FINISH GRAY POWDERCOAT SPEC	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DRAWN BY: SM 05/05/2017	USED ON MODEL
CHECKED: DD 05/08/2017	
OPPS APPR: AA 05/10/2017	
QA APPR: JL 05/10/2017	
APPROVED: JAG 05/17/2017	
SCALE 2:3	DATE 5/5/2017
SHEET 3 OF 7	

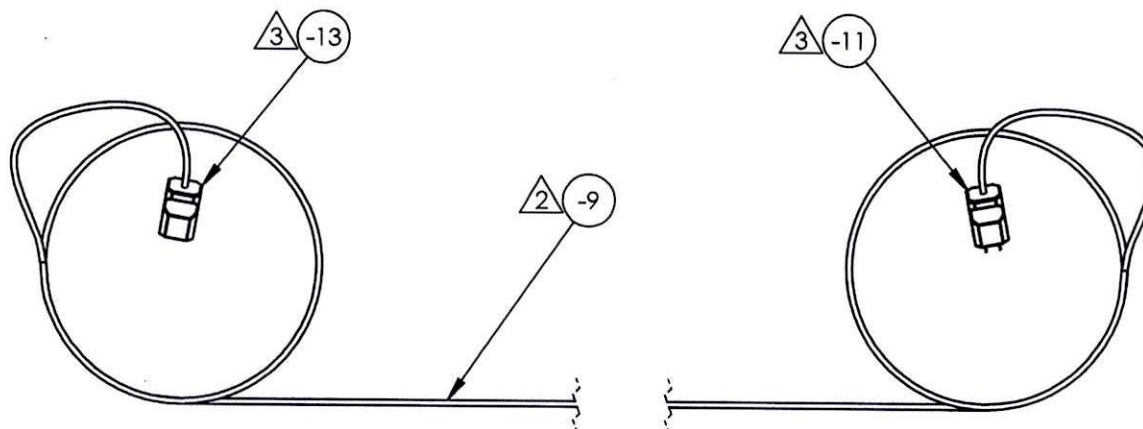
(-5)

THIMBLE

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REVISIONS			
REV	ECR	DESCRIPTION	DATE
			INITIAL
			APPROVED

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NOTES:

1. WIRING REQUIREMENTS MAY VARY UPON CUSTOMER REQUEST.
2. DETERMINE OVERALL WIRE LENGTH USING LONG LINE ASSEMBLY MANUAL.
3. SPLICE WIRE ENDS IN ACCORDANCE WITH LONG LINE ASSEMBLY MANUAL.

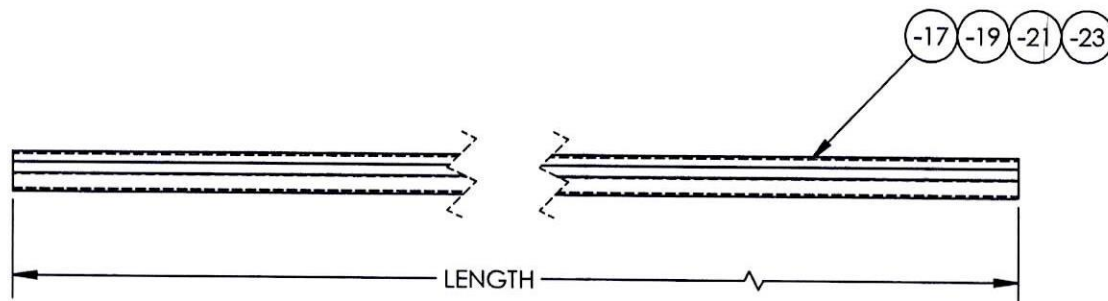
(-7)
WIRE ASSEMBLY

DART AEROSPACE	
TITLE LONG LINE	
DWG NO. P####-##-7	REV 1
MAT'L _____ TREAT _____ FINISH _____ SPEC _____	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° X ± .1 SURFACES = 125/✓	
DRAWN BY: SM 05/05/2017	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
CHECKED: DD 05/08/2017	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
OPPS APPR: AA 05/10/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
QA APPR: JL 05/10/2017	USED ON MODEL
APPROVED: JAG 05/17/2017	
SCALE 1:8	DATE 5/5/2017
SHEET 4 OF 7	

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED

TEO ATTACHED



NOTES:

1. PROVIDE -17, -19, & -21 MATERIALS TO VENDOR.
2. CONSULT LONG LINE ASSEMBLY MANUAL FOR JACKET LENGTH.

TABLE 2		
LONG LINE	-17 MATERIAL WIDTH	LENGTH
P2500-##	MURDOCK WEBBING CO. INC 4 1/8" SINGLE-WALLED TUBULAR WEB ORANGE	SEE NOTE 2
P3000-##		
P4400-##		
P5400-##		
P7300-##	MURDOCK WEBBING CO. INC 5 1/8" SINGLE-WALLED TUBULAR WEB ORANGE	
P9700-##		
P13200-##		
P15700-##	MURDOCK WEBBING CO. INC 6 1/8" SINGLE-WALLED TUBULAR WEB ORANGE	

(-15)

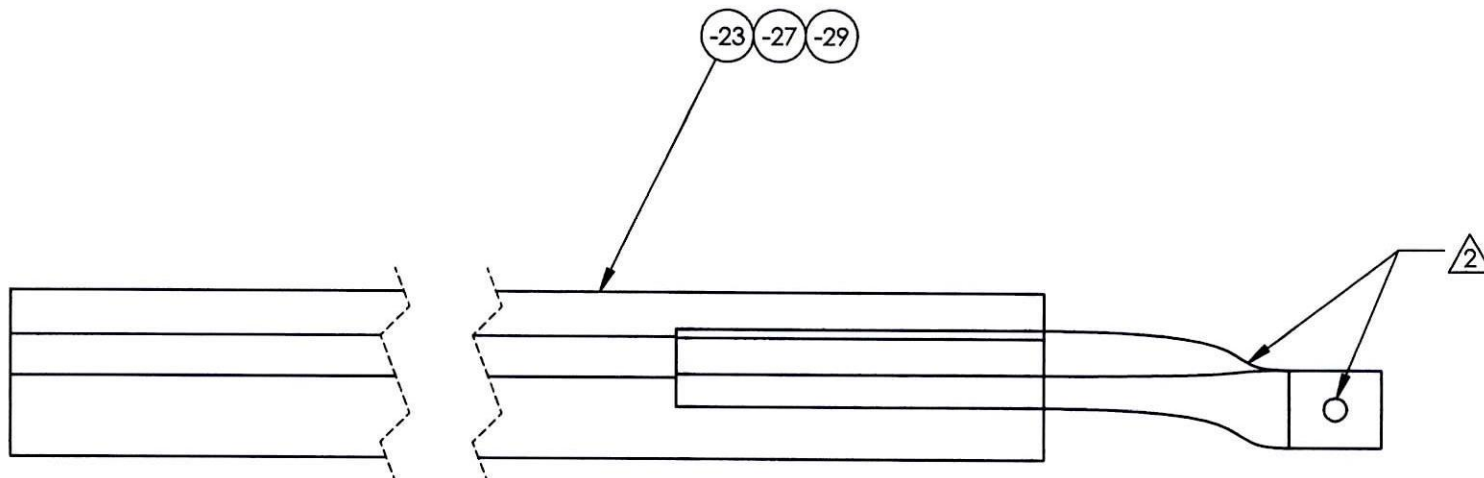
JACKET

DART AEROSPACE	
TITLE LONG LINE	
DWG NO. P####-##-15	REV 1
MAT'L _____ HEAT _____ TREAT _____ FINISH _____ SPEC _____	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .016R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
USED ON MODEL	
DRAWN BY: SM 05/05/2017	CHECKED: DD 05/08/2017
OPPS APPR: AA 05/10/2017	QA APPR: JL 05/10/2017
APPROVED: JAG 05/17/2017	
SCALE 1:4	DATE 5/5/2017
SHEET 5 OF 7	

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REVISIONS			
REV	ECR	DESCRIPTION	DATE INITIAL APPROVED

TEO ATTACHED



NOTES:

1. PROVIDE MATERIALS -23, -27, & -29 TO VENDOR.
2. WEBBING AND EYELETS NOT PROVIDED

DART AEROSPACE	
TITLE LONG LINE	
DWG NO. P####-##-25	REV 1
MAT'L _____ HEAT _____ TREAT _____ FINISH _____ SPEC _____	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .016R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
DRAWN BY: SM 05/05/2017 CHECKED: DD 05/08/2017 OPPTS APPR: AA 05/10/2017 QA APPR: JL 05/10/2017 APPROVED: JAG 05/17/2017	
USED ON MODEL	
SCALE 2:3	DATE 5/5/2017
SHEET 6 OF 7	

TABLE 3

LONG LINE	END RETURN
P2500-##	ER-3044
P3000-##	ER-3044-1
P4400-##	ER-5473
P5400-##	
P7300-##	
P9700-##	ER-9713
P13200-##	
P15700-##	ER-15002

(-25)

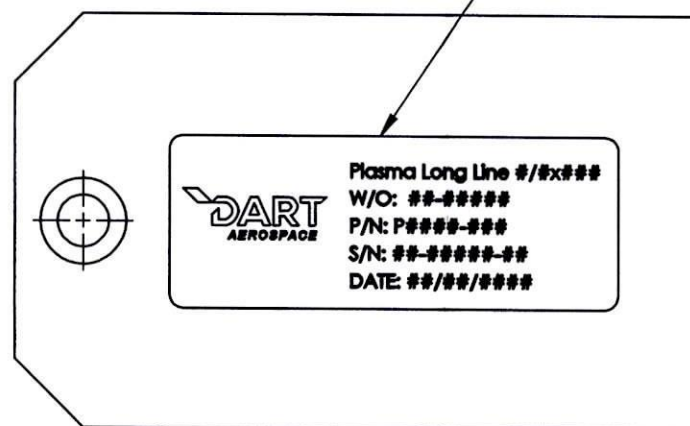
END RETURN

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REVISIONS			
REV	ECR	DESCRIPTION	DATE INITIAL APPROVED

TEO ATTACHED

PRINT:
 PLASMA LONG LINE (ROPE DIAMETER (IN.))X(LENGTH (FT.))
 W/O: ##-#####
 P/N: P####-###
 S/N: ##-#####-##
 DATE: ##/##/####



NOTE:
 1. ATTACH FIRST TAG TO ZIPPER ON -39, PLACE SECOND TAG IN FRONT POCKET ON -39.

-37
 TAG

DART AEROSPACE	
TITLE LONG LINE	
DWG NO. P####-##-37	REV 1
MAT'L _____ HEAT _____ TREAT _____ FINISH _____ SPEC _____	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .010 FRACTIONS ± 1/8 .XX ± .03 ANGLES ± 1° .X ± .1 SURFACES = 125/✓	
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	
USED ON MODEL	
DRAWN BY: SM 05/05/2017 CHECKED: DD 05/08/2017 OPPTS APPR: AA 05/10/2017 QA APPR: JL 05/10/2017 APPROVED: JAG 05/17/2017	
SCALE 3:4	DATE 5/5/2017
SHEET 7 OF 7	

**ENGINEERING ORDER # TEO17-741**

SCALE: NTS

SHEET 1 OF 1

DRAWING NO. P###-##

REV: 1

EFF.: NEXT ORDER

CHANGE CATEGORY

TITLE: LONG LINE

☒ MAJOR ☐ MINOR

DATE 17.11.08

APPROVED: WM 11/14/2017

MFG. APPR.: DD 11/14/2017

CHECKED: WM 11/14/2017

DRAWN: VM 11/09/2017

TRANSACTION CODE (TC):

A-ADD
R-REVISEC-CREATE
D-DELETE

REASON: UPDATE TO DRAWING CALLOUTS FOR NEW SUPPLIER OF LONG LINES

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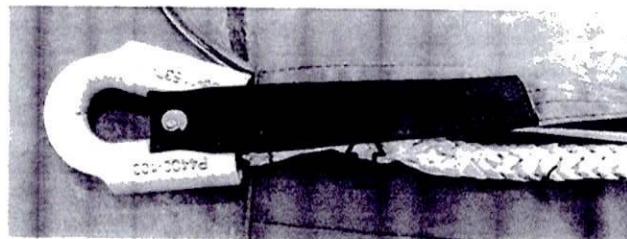
1) JACKET MUST BE MADE WITH REFERENCE TO DRAWING P###-## REV 1, LONG LINE ASSEMBLY MANUAL AND SAMPLE PROVIDED TO TULMAR WITH P/N P5400-50 S/N AC09006

2) ACCEPTABLE TO USE EL-PLUG-M (PASS & SEYMOUR #PS5965Y) OR McMaster PLUG #7216K5
ACCEPTABLE TO USE EL-PLUG-F (PASS & SEYMOUR #PS5969Y) OR McMaster PLUG #7216K6

3) ACCEPTABLE TO USE SJEOOW OR SJTOW ELECTRICAL WIRE

4) LASER ENGRAVE S/N AND P/N ON THIMBLE IS OPTIONAL

5) IDENTIFICATION WITH SEWN ON LABEL AT LOCATION SHOWN TO INCLUDE: "Dart Aerospace Ltd. P/N: P###-##, S/N: XX-XXXX-XX, MANUFACTURE DATE: MM/DD/YYYY",
WHERE THE P###-## WILL BE DEPENDENT ON THE MODEL ORDERED PER DRAWING



6) SELECTED COVER TO EXTEND THROUGH THIMBLE ENDS TO PREVENT ABRASION OF ROPE BY THIMBLE. THEY MUST BE THE SAME ON BOTH ENDS OF THE LONG LINE
ACCEPTABLE TO USE ONE OF: SLEEVE-DB-TEXSXX
WEARPADXX

7) INSPECT CONDITION OF ROPE AT THE END OF THE ROPE RETURN AND THIMBLES. FRAYING OR DAMAGE TO ROPE IS NOT ACCEPTABLE. INSPECT JACKETS AND COVER. SEWING TO BE CONTINUOUS AND WITH NO LOOSE THREADS. NO DAMAGE TO THE JACKETS IS ACCEPTABLE. ELECTRICAL CABLE MUST BE FREE OF DAMAGE OR NICKS TO THE INSULATION WHERE VISIBLE (FULL INSPECTION OF WIRE IS NOT REQUIRED). ELECTRICAL CONNECTORS MUST BE SECURELY INSTALLED. PERFORM CONTINUITY CHECK TO ENSURE THERE IS NO SHORT AND THAT CABLES ARE CONNECTED PROPERLY.

8) ACCEPTABLE TO USE Plasma® 12 STRAND ROPE OR Dyneema® SupreemX-12™ ROPE

9) PART MUST BE RECEIVED WITH CERTIFICATE OF CONFORMITY FROM TULMAR

10) IT IS ACCEPTABLE TO BUILD THE LONG LINE P###-## UTILIZING COMMON MANUFACTURING PRACTICES FROM Atlantic Braids AND Tulmar.
DART ASSEMBLY MANUAL IS FOR REFERENCE ONLY

11) ELECTRICAL WIRE LENGTH TO EXTEND 6' PAST THE BASE OF THE THIMBLE ON BOTH ENDS

12) JACKET LENGTH TO COVER THE ROPE UP TO AND INCLUDING THE END RETURN TAPER ON BOTH ENDS. JACKET LENGTH WILL BE DEPENDENT ON MODEL LENGTH

DOCUMENTS EFFECTED: ☐ PATTERN ☐ INSTALL INSTRUCTIONS ☒ BOM

2/15/2018



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada
Tel (613) 632-5200

PURCHASE ORDER

PO038417

Supplier: TUL001-VC
Tulmar Safety Systems
1123 Cameron St
Hawkesbury
ON
K6A 2B8 Canada
Phone: 613 632 1282
Fax: 613 632 2030

PO No: PO038417
PO Date: 11/20/17
Due Date: 2/5/18
Purchase Order Revision:
Revision Date: 1/24/18
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

RECEIVED
\$

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

E-MAIL ORDER

Phone: 613-632-5200					Items							
Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price	
2	P3000-100P			Plasma® Long Line 3,000 lbs Safe Work Load (1,350 kg) As per dwg P3000- 100 Rev. 1	Firmed	2/23/18	1 Ea	0 Ea	1 Ea	\$1,495.00/Ea	\$1,495.00	
Line Item Note B168559 → 173638 ✓ 1x At 18/03/06												
3	P3000-150P			Plasma® Long Line -Manufacture as per DWG P3000-150 Rev 1	Firmed	2/5/18	2 Ea	0 Ea	2 Ea	\$2,035.00/Ea	\$4,070.00	
Line Item Note B168558 +174208 1x At 18/03/13												
4	P3000-50P			Plasma® Long Line 3,000 lbs Safe Work Load (1,350 kg) As per Dwg P3000- 50 Rev. 1	Firmed	2/5/18	8 pcs	0 pcs	8 pcs	\$960.00/pcs	\$7,680.00	
Line Item Note B168560 1 Ea 0 Ea 1 Ea \$1,705.00/Ea \$1,705.00 ✓ 1x At 18/01/21												
5	P4400-100P			Plasma® Long Line 4,400 lbs Safe Work Load (2,000 kg) As Per Dwg P4400- 100 Rev. 1	Firmed	2/23/18	1 Ea	0 Ea	1 Ea	\$1,705.00/Ea	\$1,705.00	
Line Item Note B168561 1 pcs 0 pcs 1 pcs \$2,340.00/pcs \$2,340.00 ✓ 1x At 18/02/20												
6	P4400-150P			Plasma® Long Line 4,400 lbs Safe Work Load (2,000 kg) As per Dwg P4400- 150 Rev. 1	Firmed	2/5/18	1 pcs	0 pcs	1 pcs	\$2,340.00/pcs	\$2,340.00	
Line Item Note B168562 2 pcs 2 pcs 0 pcs \$1,070.00/pcs \$0.00 ✓ 1x												
7	P4400-50P			Plasma® Long Line 4,400 lbs Safe Work Load (2,000 kg) As Per Dwg P4400- 50 Rev. 1	Partial	2/5/18	2 pcs	2 pcs	0 pcs	\$1,070.00/pcs	\$0.00	
Line Item Note B168563 2/15/18 8:23 AM dart lavoie chant												

Plex 2/15/18 8 23 AM dart.lavoie.chanta

DAS
11
9-89

2/15/2018

PURCHASE ORDER

8

				Items						Unit	Extended
Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Price (CAD)	Price
					Firmed	2/23/18	2 pcs	2x0 pcs	2 pcs	\$1,070.00/pcs	\$2,140.00
Sub Total:							4	2	AT 18/03/13		\$2,140.00
8	P5400-50P			Plasma® Long Line 5,400 lbs Safe Work Load (2,500 kg) AS Per Dwg P5400- 50 Rev. 1	Firmed	2/5/18	1 pcs	0 pcs	1 pcs	\$1,185.00/pcs	\$1,185.00
Line Item Note B168564							1 Ea	0 Ea	1 Ea	\$701.80/Ea	\$701.80
10	P4400-25P			Plasma® Long Line 4,400 lb Safe Work Load (2,000 Kg) sales quote: 19062	Firmed	3/5/18	1 Ea	0 Ea	1 Ea	\$701.80/Ea	\$701.80
Line Item Note B170066							2 pcs	0 pcs	2 pcs	\$1,070.00/pcs	\$2,140.00
11	P4400-50P			Plasma® Long Line 4,400 lbs Safe Work Load (2,000 kg) As Per Dwg P4400- 50 Rev. 1	Firmed	2/5/18	2 pcs	0 pcs	2 pcs	\$1,070.00/pcs	\$2,140.00
Line Item Note B169944							2 pcs	0 pcs	2 pcs	\$960.00/pcs	\$1,920.00
12	P3000-50P			Plasma® Long Line 3,000 lbs Safe Work Load (1,350 kg) As per Dwg P3000- 50 Rev. 1	Firmed	2/5/18	2 pcs	0 pcs	2 pcs	\$960.00/pcs	\$1,920.00
Line Item Note B169943							1 pcs	0 pcs	1 pcs	\$725.00/pcs	\$725.00
13	P3000-25P			Plasma® Long Line 3,000 lbs Safe Work Load (1,350 kg) As Per Dwg P3000- 25	Firmed	2/22/18	1 pcs	0 pcs	1 pcs	\$725.00/pcs	\$725.00
Line Item Note job # 169697							Grand Total: \$26,101.80				

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses
 A005 RIGHT OF ENTRY
 A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)
 A012 CHEMICAL AND PHYSICAL TEST REPORTS
 A016 PERSONNEL QUALIFICATION
 A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
 A026 CERTIFICATION OF MATERIAL CONFORMANCE
 A041 QUALITY MANAGEMENT SYSTEM
 A042 DART NOTIFICATION BY SUPPLIER
 A043 RETENTION OF QUALITY DOCUMENT
 A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM
 A049 SUPPLIER AWARENESS

Plex 2/15/18 8:23 AM dart.lavoie.chantal

PACKING SLIP

TULMAR

Tulmar Safety Systems Inc.
1123 Cameron Street
Hawkesbury, ON K6A 2B8
Tel: 613-632-1282
Fax: 613-632-2030
GST R132478223
MID : XOTULSAF1123HAW
email: info@tulmar.com

Packing Slip No Page

62851 1

Ship Date
3/12/2018

Bill To:

Dart Aerospace

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Canada

Ship To:

Dart Aerospace

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Canada

Order number	Sales order date	Account number	Loc	Account manager
35465	11/21/2017	CDART100	H	Francine Bigras
PO number	Ship via	Shipping Terms		
PO038417	Pick-Up			

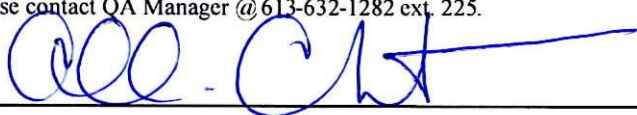
Item No. Description	Quantity ordered	UOM	Qty Shipped/Returned	Quantity on back order
REV 1: Pricing update - Dec. 22/17 TULMAR TRUCK				
87307-003 Long Line, 50ft, 1/2" Plasma Drawing No: P4400-50 + TEO17-741 DWG Rev: 1 SF 44089	2.00	EA	2.00	
Lot no.: BATCH0000000003	2.00			
87347-003 Long Line, 150ft, 7/16" Plasma Drawing No: P3000-150 + TEO17-741 DWG Rev: 1 SF 43747	2.00	EA	1.00	1.00
Lot no.: BATCH0000000001	1.00			

Certificate of Conformance

☐ See Certification Enclosed

I hereby certify that the items listed hereon have been inspected, and / or tested (as applicable), conform to all specifications and requirements detailed in the contract or purchase order. Objective evidence to support this statement is on file, and can be made available upon request.
If any questions or concerns, please contact QA Manager @ 613-632-1282 ext. 225.

Authorized Inspector



Date:

MAR 12 2018